



# DRAFT

This draft of the listed vehicle's VTS is posted with the specifications that we currently have for the listed vehicle. The specifications that are listed will not be changed. Therefore, competitors may use the specifications listed to begin preparing their vehicles. The missing specifications will be added as they are received. Each VTS will be finalized before the start of the season.

Competitors needing a specification that is not listed should contact the World Challenge Technical Staff to find out when that specification will be available.

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# 2004 WORLD CHALLENGE *Draft*

VEHICLE MANUFACTURER:	Cadillac
YEAR & MODEL:	2004 CTS-V / R

This specifications form was developed by SCCA Pro Racing and will be used by the Series Technical Administrator, along with the Electronic Parts Catalog (EPC), the Technical Information System (TIS), and the FIA/ASN Homologation forms (or equivalent documentation) to establish technical compliance for vehicles competing in the SCCA PRO RACING WORLD CHALLENGE series.

The specifications within this form include all modifications that have been approved by SCCA Pro Racing specifically for the vehicle model(s) and year(s) listed on this page. The parts, specifications and assemblies used shall be those for the unmodified stock vehicle, those permitted within the Pro Racing Regulations (PRR) and/or within this VTS. If the stock parts, specifications and/or assemblies exceed the performance potential of those approved within this form, then the parts, specifications and/or assemblies used shall meet those listed within this form.

Refer to SCCA PRR for rules regarding all vehicle specifications not specifically listed within the VTS. Specifications regarding wheels and tires may be found in Article 3 and Appendix A of the PRR. Specifications regarding brakes may be found in Article 3 of the PRR. Appendix A will list what size restrictor to use if a restrictor is required to be run.

When looking for the most current rules, go to [www.world-challenge.com](http://www.world-challenge.com) and look under the "Competitors" section for latest Technical Bulletins, Participant Bulletins, and Appendix A.

This Vehicle Technical Specification sheet is a permissive document. The exact configuration of any modification allowed within this VTS is subject to the approval of the TECHNICAL ADMINISTRATOR.

Note: this form will have measurements in both U.S. Standard and Metric units of measure when practical. U.S. measurements will be in parenthesis.



1. GENERAL VEHICLE DESCRIPTION:

A. Body Type (Sedan, Coupe, Hatchback): Sedan B. Engine Location (front, rear, mid): Front
C. Drive Type: Front: Rear: X AWD: D. Wheelbase: 2881mm (113.4")
E. Induction Type (Turbo, Super, N.A.): N.A. F. Appendix A Weight (@ start of season): TBD

2. ENGINE: OEM DESIGNATION:

A.1. Displacement: 5728cc (352.7ci) A.2. Number of Cylinders: 8 - (V)
A.3. Rev-Limit: Required: (Y / N) No A.4. @ RPM A.5. Method:
A.6. Compression Ratio (Max): 12.0:1 A.7. Piston Stroke: 83.0mm (3.27")
A.8. Restrictors - (teams are required to be prepared to install these restrictors): % of Reduction: 12, 14, 16, 18, 20 Hole Diameter (mm): 84.4, 83.5, 82.5, 81.5, 80.5
A.9. Cylinder Firing Order: ? A.10. Direction of Engine Rotation (incl. cams): Clockwise

B. CYLINDER BLOCK:

Part Number: XX017423 (GM)

B.1. Cylinder Block Material: Aluminum B.2. Cylinder Bore (Max): 104.8mm (4.13")

C. CYLINDER HEAD:

Part Number: 12578451 (GM)

C.1. Cylinder Head Material: Aluminum
C.2. Port Volume (Max) (cc): C.2.a. Intake: 290.0cc (17.69ci) C.2.b. Exhaust: 93.0cc (5.67ci)
C.3. Cylinder Head Combustion Chamber Volume (Min) (cc): 63.0cc (3.84ci)
C.4. Total Combustion Chamber Volume (Min) (cc): 59.6cc (3.64ci)

D. VALVE SYSTEM:

D.1. Number of Valves per Cylinder: D.1.a. Intake: 1 D.1.b. Exhaust: 1
D.2. Valve Head Diameter (Max): D.2.a. Intake: 56.0mm (2.20") D.2.b. Exhaust: 41.0mm (1.61")

E. INTAKE PORT DIMENSIONS:

E.1. At Inlet Manifold Face (Max): E.1.a. Height: ? E.1.b. Width: ?

F. EXHAUST PORT DIMENSIONS:

F.1. At Exhaust Manifold Face (Max): F.1.a. Height: ? F.1.b. Width: ?

G. PISTON & CONNECTING ROD:

G.1. Connecting Rod Length (Axis Centerline to Axis Centerline): 159.4mm (6.28")
G.2. Mass (min.) of Reciprocating Assembly: (con rod, cap, bolts, piston, rings, pin & clips, bearings) G.2.a. Stock: ? G.2.b. Approved: ?

H. CAMSHAFT:

Part Number: XX3992CA (GM)

H.1. Rocker Arm Ratio: 1.8:1 H.2. Valve Actuation (direct action, etc.): Pushrod
H.3. Type of Cam Follower (roller, solid, etc.): Roller

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# 2004 DRAFT VTS

Vehicle 2004 CTS-V/R Class GT

## I. CRANKSHAFT:

Part Number: ?

I.1. Mass (Min): 29.22kg (49.0 lbs.)

## J. FLYWHEEL:

Stock Ring Gear Diameter: ?

## K. FORCED INDUCTION INTAKE SYSTEM:

**Not Applicable**

## L. INTAKE MANIFOLD:

Part Number: 12569011 (GM)

L.1. Port at Cylinder Head Face (Max): L.1.a. Height: ? L.1.b. Width: ?

L.2. Intake Manifold Volume (Max): ?

L.3. Throttle Body Bore Diameter & Part #: 90.0mm (3.54") ETC / 12579615 (GM)

L.4. # of Throttle Bodies: 1 L.5. # of Butterflies per Throttle Body: 1

## M. ENGINE MISCELLANEOUS:

This engine is limited to a 0.5mm overbore, not the series standard 1.0mm overbore. Hitachi MAF sensor.

Stock valvetrain components must be used. Oil pan & sump from Katech (p/n: KGM 3022 R5) to be used.

The engine may be moved rearward 3.08" from the stock location.

## **3. DRIVETRAIN:**

### A. TRANSMISSION:

A.1. Number of Forward Speeds: 6 A.2. Manufacturer: Tremec

A.3. Gear Ratios: A.3.a. 1st: 2.29 A.3.b. 2nd: 1.61 A.3.c. 3rd: 1.22

A.3.d. 4th: 1.00 A.3.e. 5th: 0.85 A.3.f. 6th: 0.75

A.4. Gear Shift Pattern / Engagement (synchromesh, dog-ring, etc.): H-pattern / Synchromesh

### B. ALL WHEEL DRIVE:

**Not Applicable**

### C. FINAL DRIVE:

Axle Ratio: 3.9 / 4.1 (Getrag)

### D. DRIVETRAIN MISCELLANEOUS:

Hewland 5-speed dog-ring gearbox will be used at Sebring due to supply/gearbox problems. The 100 lbs.

penalty will be included in Appendix A base weight. (Hewland Ratios: 1<sup>st</sup> ?, 2<sup>nd</sup> ?, 3<sup>rd</sup> ?, 4<sup>th</sup> ?, 5<sup>th</sup> ?). The

production Tremec 6-speed transmission and listed ratios will be used starting at 2004 Lime Rock race.

Quarter Master bellhousing (pn: ?) is permitted. Mid-valley adapter plate (p/n: ?) is permitted. Production

Tremec T-56 transmission must be rotated on its side.

## **4. SUSPENSION:**

4.A. Suspension Type (Double A-arm, 4.A.1. Front: Double A-arm 4.A.2. Rear: Multi-link etc.):

### 4.B. SUSPENSION MISCELLANEOUS:

GM – List suspension modifications, part numbers, etc. that are outside of the standard PRR rules.

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Four horizontal lines for notes or additional information.

**5. CHASSIS:**

5.A. See attached dimension information sheets:

**5.B. CHASSIS MISCELLANEOUS:**

Transmission access panel may be installed in transmission tunnel. Transmission tunnel may be replica of stock transmission tunnel due to clearance issues when car is lowered. Replica of raised rear seat platform may be used.

GM – List chassis modifications, part numbers, etc. that are outside of the standard PRR rules.

**6. BODY:**

6.A. Stock Coefficient of Drag (Cd): \_\_\_\_\_ ?

6.B. Body Overhang (Measured from Axle Centerline): 6.B.1. Front: \_\_\_\_\_ ? 6.B.2. Rear: \_\_\_\_\_ ?

6.C. Stock Body Materials: Steel unitized body with steel body panels and non-metallic front and rear fascias.

**6.D. BODY MISCELLANEOUS:**

CTS-1A-140: rear quarter panels (L&R), CTS-1A-110: front door assy. (L&R), CTS-1A-150: rear decklid, CTS-1A-010: front fascia, CTS-1A-020: front splitter assy., CTS-1A-030: vented hood, CTS-1A-100: front fenders (L&R), CTS-1A-120: rocker panels (L&R), CTS-1A-130: rear door assy. (L&R), CTS-1A-160: rear fascia, CTS-1D-000: tail frame & wing assy.